



**Rohrsysteme**

**Drinking water pipes**

**System Description**

**BRF**

**10.100**

07.04

## **BRUGG drinking water pipe, Type BRF made of stainless steel V2A / V4A**

The BRF pipe is a preinsulated plastic jacket pipe system for transporting drinking water or sewage. It is a pipe system for a channel-free, direct underground or open laying that has been tried and tested since years. Depending on the purpose, the BRF pipe has a medium pipe made of stainless steel in the quality V2A or V4A. The medium pipes can also be delivered on request.

The special steel pipes are pushed concentric into a shock-resistant HDPE jacket pipe at our factory and the intermediate space is foamed with polyurethane high performance foam. All three components form a fixed unit. Thus, this pipe system belongs to the family of composite pipes. Object-related, the BRF pipe can also be delivered with an already foamed heater band channel and/or monitoring system.

In the basic version, the pipe ends are smooth. Alternately, the standard special steel pipes can be provided with Victaulic Rollnut or outer thread. Thus, there are many connection options: Welding, Victaulic coupling or another mechanical joint. All re-insulation work is generally carried out by us or by a trained contractor.

BRF pipes are used for open installation (bridges and tunnels) or with slight cover as protection against freezing. Similarly, they are protected from mechanical damages and as additional corrosion proofing for a long life and to ensure optimum operational safety.

### **Construction:**

#### **Medium pipe**

Material: Stainless steel V2A or V4A  
Standard pipe length: 6 m

#### **Insulation**

Material: Polyurethane foam  
Core pipe density: min. 60 kg/m<sup>3</sup>  
Thermal conductivity: 0.025 W/mK at an average temperature of 20 °C

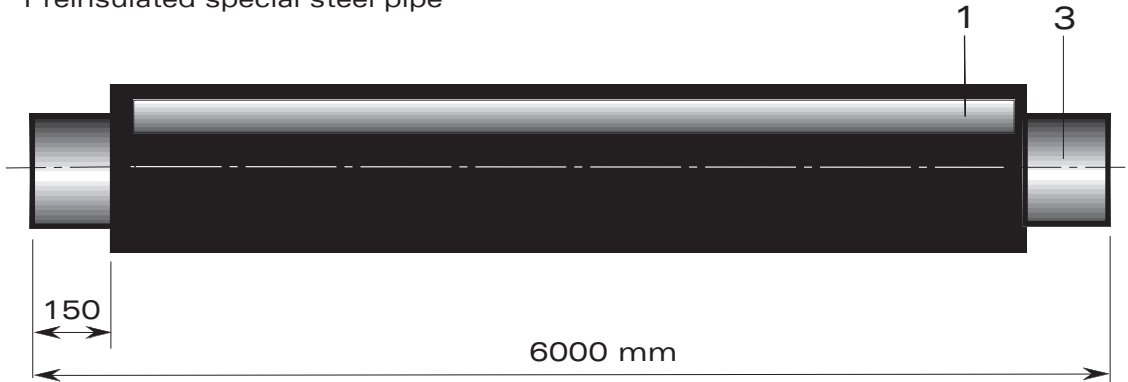
#### **Jacket pipe**

Material: HD-PE, alternately with folded spiral pipe

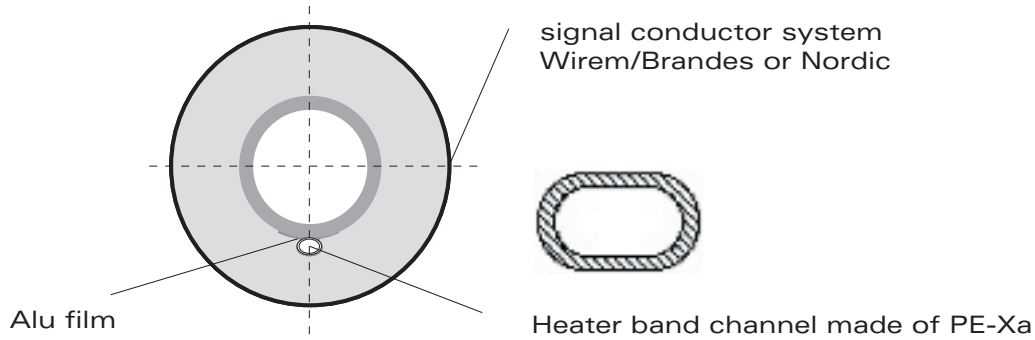
#### **Reinsulation**

Implementation: by trained assembly staff  
Foaming: with PUR foam  
Sealing: with heat-shrunk muffs and bands

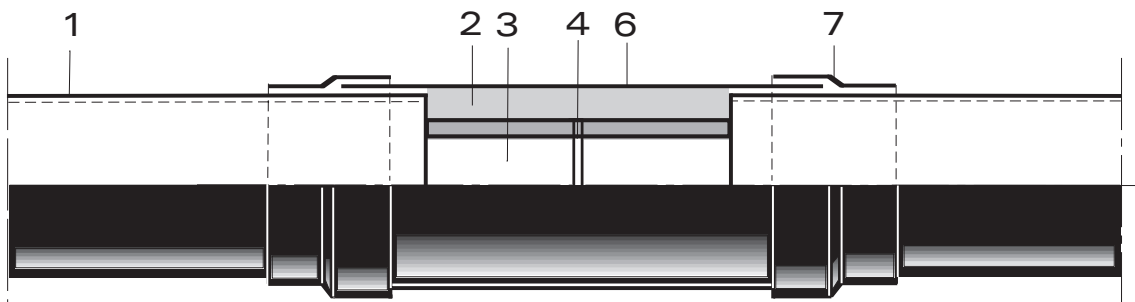
Preinsulated special steel pipe



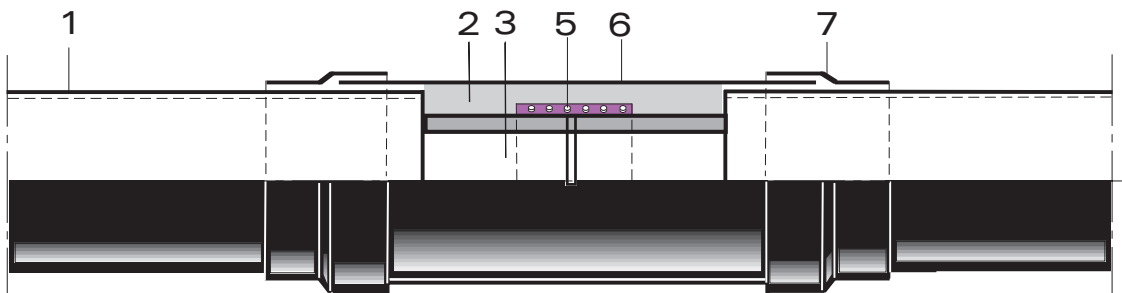
Preinsulated special steel pipe, alternately with heater band channel and/or signal conductor system



Detail muff connection, welded



Detail muff connection, Victaulic rollnut or mechanical joint



- |                      |   |
|----------------------|---|
| 1 Jacket pipe        | 5 Victaulic joint with Rollnut or mechanical joints |
| 2 Polyurethane foam  | 6 Shrink muff                                       |
| 3 Special steel pipe | 7 Shrink band                                       |
| 4 Welded seam        |   |

**Rohrsysteme****Drinking water pipes****Delivery program  
Standard special steel****BRF****10.110**

07.04

The preinsulated drinking water and sewage pipe, type BRF, can be manufactured in the dimensions given below. The pipes can't be delivered ex-works.

**Insulation thickness 1**

Nominal diameter Primary pipe DN	ø outer Primary pipe mm	Jacket pipe Outer Ø mm	Insulation thickness mm	Weight <b>without</b> primary pipe kg/m
20	26.9	90	29	1.1
25	33.7	90	26	1.0
32	42.4	110	31	1.5
40	48.3	110	28	1.4
50	60.3	125	30	1.7
65	76.1	140	29	2.1
80	88.9	160	33	2.5
100	114.3	200	40	3.6
125	139.7	225	39	4.3
150	168.3	250	37	5.0
200	219.1	315	43	7.7
250	273.0	400	57	12.7
300	323.9	450	56	15.2
350	355.6	500	64	19.0
400	406.4	560	68	23.5
450	457.2	630	77	29.5
500	508.0	710	90	38.1
600	609.6	800	83	45.5

**Insulation thickness 2**

Nominal diameter Primary pipe DN	ø outer Primary pipe mm	Jacket pipe Outer Ø mm	Insulation thickness mm	Weight <b>without</b> pri- mary pipe kg/m
20	26.9	110	39	1.5
25	33.7	110	36	1.5
32	42.4	125	39	1.8
40	48.3	125	36	1.8
50	60.3	140	37	2.2
65	76.1	160	39	2.6
80	88.9	180	43	3.1
100	114.3	225	52	4.7
125	139.7	250	51	5.5
150	168.3	280	51	6.7
200	219.1	355	62	10.7
250	273.0	450	82	17.1
300	323.9	500	80	20.3
350	355.6	560	93	25.9
400	406.4	630	102	32.3
450	457.2	710	115	41.2
500	508.0	800	134	52.6
600	609.6	900	131	63.5



Rohrsysteme

Drinking water pipes

Delivery program  
Standard special steel

BRF

10.115

07.04

The preinsulated drinking water and sewage pipe, type BRF, can be manufactured in the dimensions given below. The pipes can't be delivered ex-works.

### Insulation thickness

Nominal diameter Primary pipe DN	ø outer Primary pipe mm	Jacket pipe Outer Ø mm	Insulation thickness mm	Weight <b>without</b> pri- mary pipe kg/m
20	26.9	125	47	1.9
25	33.7	125	43	1.8
32	42.4	140	46	2.3
40	48.3	140	43	2.3
50	60.3	160	47	2.8
65	76.1	180	49	3.3
80	88.9	200	52	3.9
100	114.3	250	64	5.9
125	139.7	280	66	7.3
150	168.3	315	68	8.9
200	219.1	400	84	14.3
250	273.0	500	106	19.9
300	323.9	560	109	27.3
350	355.6	630	127	34.7
400	406.4	710	141	43.9
450	457.2	800	159	55.7
500	508.0	900	182	70.7
600	609.6	1000	180	84.1

### Fittings

The design of the various fittings vary between fittings for underground and open laying (outside). They are described in Chapter 13.

### Heat loss calculations / heater bands

If you are not sure whether a heater band is required, please contact our project engineers for calculating the heat losses. Owing to our excellent contacts with various heater band manufacturers, we can help you find the suitable product.



**Rohrsysteme**

**Drinking water pipes**

**System Description**

**BGU  
9.200**

07.04

### **BRUGG drinking water pipes, Type BGU made of ductile cast iron**

The BGU pipe is a preinsulated plastic jacket pipe system for transporting drinking water. It is a pipe system for a channel-free, direct underground or overground laying that has been tried and tested since years. Depending on the purpose, the BGU pipe has a medium pipe made of ductile cast in the plug-in or screw on muff pipe model.

The cast pipes are pushed concentric into a shock-resistant HDPE jacket pipe at our factory and the intermediate space is foamed with polyurethane high performance foam. All three components form a fixed unit. Thus, this pipe system belongs to the family of composite pipes.

Depending on the model, after successful installation, the impact points of the BGU pipes are reinsulated using shrink muffs or collars. This reinsulation work is generally carried out by us or by a trained contractor.

BGU pipes are used for open installation (bridges and tunnels) or with slight cover as protection against freezing. Similarly, they are protected from mechanical damages and as additional corrosion proofing for a long service life and to ensure optimum operational safety.

#### **Construction:**

##### **Medium pipe**

Material: ductile cast  
Encasing: according to specification of cast pipe manufacturer  
Inner lining: according to specification of cast pipe manufacturer  
Pipe length: 6 m

##### **Insulation**

Material: Polyurethane foam  
Core pipe density: min. 60 kg/m<sup>3</sup>  
Thermal conductivity: 0.025 W/mK at an average temperature of 20 °C

##### **Jacket pipe**

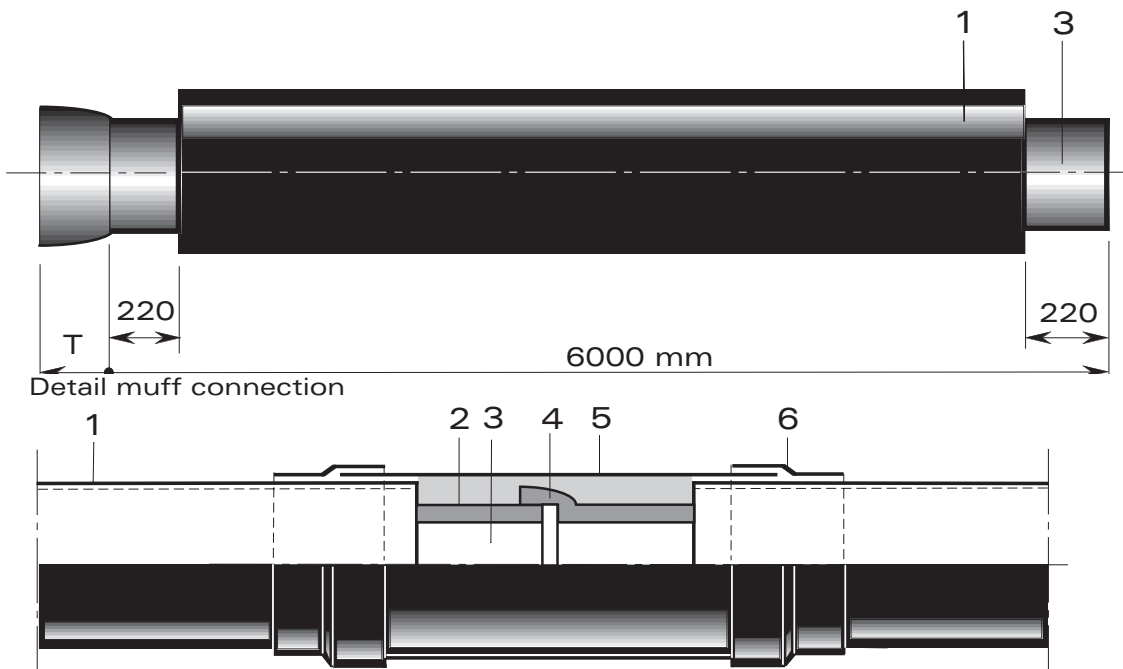
Material: HDPE polyethylene, alternately with folded spiral pipe

##### **Reinsulation**

Implementation: by trained assembly staff  
Foaming: with PUR foam  
Sealing: with heat-shrunk muffs and bands

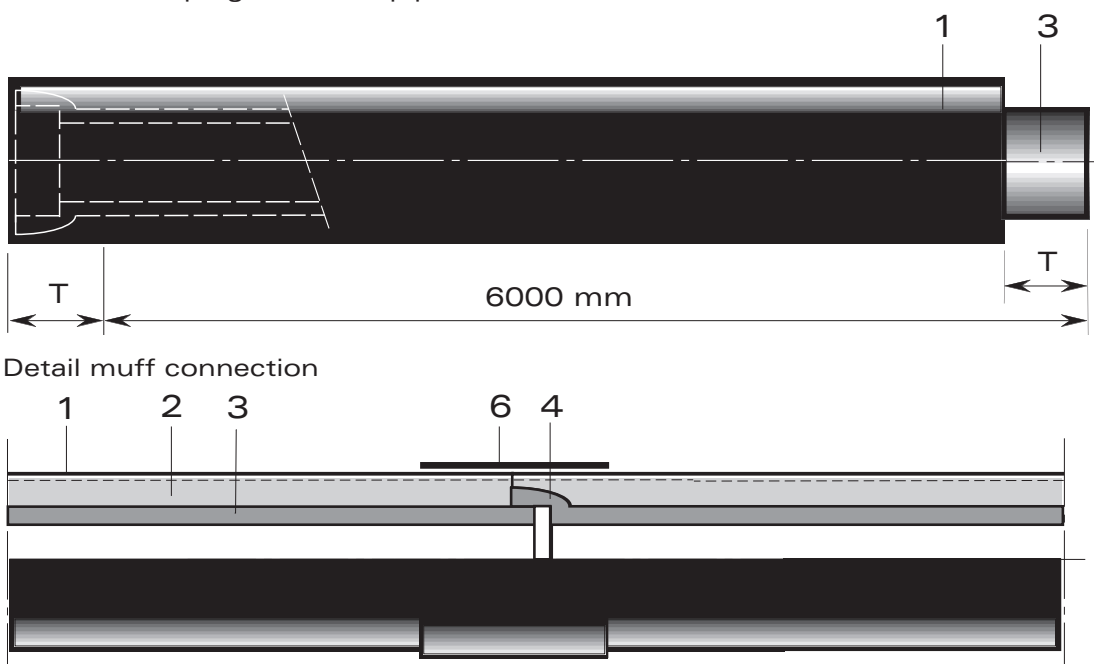
**Model with projecting cast pipe ends on both sides, in pipes with outer sliding safety device, as well as in small quantities. The connection points are reinsulated on the construction site.**

Preinsulated plug-in socket pipe



Model with foamed plug-in muff, in pipes without outer sliding safety device and in larger quantities. The jacket pipe connection is sealed using elastic-viscous sealing agents.

Preinsulated plug-in socket pipe



- 1 Jacket pipe
- 2 Polyurethane foam
- 3 Plug-in muff pipe (cast pipe)
- 4 Plug-in muff connection
- 5 Shrink muff
- 6 Shrink band

The preinsulated drinking water pipe, type BGU, can be manufactured in the dimensions given below. The pipes can't be delivered ex-works.

**Insulation thickness 1**

Cast pipe DN mm	Cast pipe Outer Ø mm	Jacket pipe Outer Ø mm	Insulation thick- ness mm	Weight without cast pi- pe kg/m	Weight * with cast pipe kg/m
80	98	160	28	2.4	18,7
100	118	200	38	3.5	23,4
125	144	225	37	4.2	29,3
150	170	250	36	5.0	36,1
200	222	315	42	7.6	59,3
250	274	400	57	12.6	70,6
300	326	450	55	15.1	89,3
350	378	500	53	17.9	131,4

**Insulation thickness 2**

Cast pipe DN mm	Cast pipe Outer Ø mm	Jacket pipe Outer Ø mm	Insulation thick- ness mm	Weight without cast pi- pe kg/m	Weight with cast pipe kg/m
80	98	180	38	3.0	19,3
100	118	225	50	4.6	24,5
125	144	250	49	5.5	30,6
150	170	280	51	6.7	37,8
200	222	355	61	10.6	54,5
250	274	450	81	17.1	75,1
300	326	500	79	20.2	94,4

**Insulation thickness 3**

Cast pipe DN mm	Cast pipe Outer Ø mm	Jacket pipe Outer Ø mm	Insulation thick- ness mm	Weight without cast pi- pe kg/m	Weight with cast pipe kg/m
80	98	200	48	3.8	20,1
100	118	250	62	5.9	25,8
125	144	280	64	7.2	32,3
150	170	315	68	8.9	40,0
200	222	400	83	14.3	58,0
250	274	500	105	22.2	80,2

**Fittings**

The design of the various fittings vary between fittings for underground and open laying (outside). They are described in Chapter 13.

\* Inside: Cement mortar lining  
Outside: Flame-galvanised and coating